

## Message Text

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PAGE 01 BUENOS 03405 162033Z

12

ACTION EB-07

INFO OCT-01 ARA-06 ISO-00 FEA-01 ERDA-05 AID-05 CEA-01

CIAE-00 CIEP-01 COME-00 DODE-00 FPC-01 H-02 INR-07

INT-05 L-02 NSAE-00 NSC-05 OMB-01 PM-03 USIA-06

SAM-01 OES-03 SP-02 SS-15 STR-04 TRSE-00 FRB-03 /087 W

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FM AMEMBASSY BUENOS AIRES

TO SECSTATE WASHDC 1212

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E.O. 11652: N/A

TAGS: ENRG, BEXP, TECH, AR, US

SUBJ: PARANA MEDIO HYDROELECTRIC PROJECT

REF: BA 2749

1. THERE FOLLOWS, FOR THE DEPARTMENT INFORMATION, A SUMMARY OF THE PREFEASIBILITY STUDY OF THE PARANA MEDIO PROJECTS DONE BY LAHMEYER INTERNATIONAL, CONSULTING ENGINEERS, UNDER A GERMAN-ARGENTINE TECHNICAL-ECONOMIC COOPERATION (TECHNICAL ASSISTANCE") AGREEMENT. (LAHMEYER'S CONTRACT WAS WITH THE GERMAN BFE, RATHER THAN DIRECTLY WITH AGUA Y ENERGIA.) THE STUDY WAS CONDUCTED BETWEEN JUNE AND NOVEMBER 1974. IT IS BEING POUCHEO TO THE ARA COMMERCIAL COORDINATOR.

2. LAYMEYER DULY NOTES THAT THE PROJECT IS ONE OF THE LARGEST IN THE WORLD. THE REPORT HAS MANY CAVEATS TO THE EFFECT THAT IT IS VERY PRELIMINARY, BASED ON INSUFFICIENT DATA, CALCULATIONS ARE APPROXIMATE AND ILLUSTRATIVE ONLY, ETC. NONETHELESS, SAHMEYER SAYS THAT "SOME" OF THE REPORT CHAPTERS ARE SUITABLE FOR THE FEASIBILITY STAGE.

3. LAHMEYER HAD APPARENTLY RECOMMENDED EARLY IN THE STUDY

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PAGE 02 BUENOS 03405 162033Z

THAT ATTENTION BE CONCENTRATED ON ONLY ONE OF THE TWO POSSIBLE

DAM SITES, IN ORDER TO MAXIMIZE THE RESULTS OF THE STUDY.  
THIS WAS NOT DONE HOWEVER SO THAT RESULTS WERE DILUTED.  
(A SUBSEQUENT AGUA Y ENERGIA STUDY APPARENTLY SELECTED THE  
SOUTHERN DAM SITE FOR FIRST CONSTRUCTION).

4. IN REGARD TO THE EARTH DAMS, THE SOUTHERN DAM WOULD BE  
20 KM LONG ACROSS THE RIVER AND EXTEND FOR 200 KM UP THE  
WEST BANK OF THE PARANA. TO KEEP COSTS DOWN, IT WOULD HAVE  
TO BE BUILT FROM LOCAL MATERIAL; USE SIMPLE CONSTRUCTION  
TECHNIQUES AND AN ECONOMIC COVERING FOR THE SIDE SLOPE.  
THE USE OF IMPERMEABLE MATERIALS WOULD BE IMPOSSIBLE (DUE  
TO COST). LAND EXPROPRIATION COSTS WOULD HAVE TO BE MINIMIZED.

5. THE EXACT LOCATION FOR THE SOUTHERN DAM WAS NOT PICKED IN  
THE LAHMEYER STUDY, DUE TO INSUFFICIENT EFFORT. THE EXACT  
TYPE OF DAM AND CONSTRUCTION MATERIALS WAS SIMILARLY  
UNSPECIFIED, BECAUSE THIS DEPENDS GREATLY ON THE  
TOPOGRAPHY OF THE EXACT LOCATION.

6. INEVITABLY, SAYS LAHMEYER, THE DESIGN MUST ENCOMPASS A  
RELATIVELY HIGH FILTRATION SCHEME WITH A LARGE ROCK  
DRAINAGE FOOTING AT THE BASE OF THE DOWNSTREAM SLOPE.

7. OVERTOPPING IS CITED AS A CRUCIAL DESIGN PROBLEM, WHICH IS  
THE CAUSE OF 40 PC OF WORLDWIDE EARTH DAM FAILURES AND IS A  
CLEAR DANGER AT PARANA MEDIO. IT CAN BE OVERCOME, BUT AT  
GREAT COST. THE PROBABILITY OF HIGH WINDS AT THE PARANA  
MEDIO SITES (UP TO 180 KM/HR IT IS STATED) LEADS TO A NEED  
TO CONSIDER WIND-INDUCED WAVES. AGAIN IT IS CLEAR THAT  
THE LAHMEYER STUDY WAS VERY PRELIMINARY IN THIS  
RESPECT.

8. THE LAHMEYER REPORT AS WE RECEIVED IT CONTAINS NO COST  
ESTIMATES. THERE IS A CAVEAT THAT PROJECT ECONOMICS ARE  
"COMPLETELY FULL OF UNCERTAINTIES". LAHMEYER SUGGESTED THAT  
ARGENTINA COMPUTE ELECTRIC SYSTEM DEVELOPMENT COSTS WITHOUT  
AND WITH PARANA MEDIO CONSTRUCTION TO SEE WHAT THE COST/  
BENEFIT RATIO OF THIS PROJECT MIGHT BE. FOR THE "WITHOUT"  
STUDY, THEY NATURALLY SUGGEST CONSIDERATION OF NUCLEAR  
POWER PLANTS AS AN ALTERNATIVE WHICH IS PROBABLY MORE  
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PAGE 03 BUENOS 03405 162033Z

ECONOMIC THAN FOSSIL FUELED PLANTS.

9. EMBASSY WILL PROVIDE ADDITIONAL INFO ON STATUS FOLLOWING  
VISIT TO SANTA FE.  
HILL

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## Message Attributes

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